

New York State Department of Transportation

Yellow Flag NB23U4W020

By: Malav Shah

Flag Date: May 22, 2023

Superseding Information:

No Flags Superseded

Structure Information

BIN: 1065318

Feature Carried: 278I278IX2M23027

Feature Crossed: 6TH AVENUE

Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY

County: KINGS

Political Unit: City of NEW YORK

Approximate Year Built: 1962

Posted Load Matches Inventory : Yes

Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation

Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party

Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder

This Bridge is not a Ramp

Number of Spans: 322

Verbal Notification Information

Person Notified: Muhammad Mubeen

Date: May 26, 2023 2:51:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Malav Shah, P.E. 106620-1

Date: June 20, 2023

Reviewed By: Robert Kemp

Date: June 20, 2023

Attachments: 10

Flagged Elements

Parent Element	Element	Total Quantity	Unit
Span Number : 300			
	152 - Steel Floor Beam	593	ft

Flagged Condition Description

This Yellow Flag No. NB23U4W020 is a new flag.

Location: Span 300 Floorbeam FB3 between Girder G1 and G2, at connection to Girder G1 Right Face

This yellow flag is for section loss present in Floorbeam FB3 web plate, web cover plates, top and bottom flange angles and connection angles to Girder G1.

- For Floorbeam FB-3 Begin Face (Refer to sketch 1- Photo 2, Photo 7 and Photo 8):

Floorbeam FB-3 begin face has 2 connection angles (short angle on top and long connection angle at the bottom) in the connection to the Girder G1 right face:

1. Short connection angle located above exhibits up to 1/8" section loss (approx. 17% section loss) on full face of both legs.
2. Long connection angle located below short angle, exhibits 1/16" section loss (approx. 8% section loss) on full face of both legs.

Floorbeam FB-3 begin face has built-up top and bottom flanges with 5" x 5-1/2" angle sections:

1. Top Flange angle has 1/16" pitting (approx. 8% section loss) for Full Width x 25-1/2" L in outstanding leg.
2. Bottom Flange angle exhibits 100% section loss in connecting vertical leg for FH x 25-1/2" L.

Floorbeam FB-3 begin face has built-up web with web center plates and 2 pieces of web cover plates on top:

1. Web upper cover plate exhibits 5/16" – 3/8" section loss (approx. 55% to 66% section loss) on Full Face (as-inspected original dimension – 32" H x 6-3/4" W x 9/16" thick).
2. Web lower cover plate exhibits section loss varying from 1/4" to 3/8" (approx. 44% to 66%) on Full Face (as-inspected original dimension – 38" H x 25-1/2" W x 9/16" thick).
3. Web center plate exhibits 1/8" – 3/16" section loss (approx. 31% to 47%) (10"-18" H x 19" W) located above the Web Lower Cover Plate. There is a 3/16" – 1/4" section loss (approx. 47% to 63%) (20"H x 2"W) below top flange angle in upper web, adjacent to intermediate stiffener angle. (as-measured web thickness per d-meter reading - 0.40" thick).

- For Floorbeam FB-3 End Face (Refer to sketch 2- Photo 3, Photo 9 and Photo 10):

Floorbeam FB-3 end face has 2 connection angles (short angle on top and long connection angle at the bottom) at the connection to the Girder G1 right face.

1. Both angles exhibit 1/16" section loss (approx. 8% section loss) on full face.

Floorbeam FB-3 end face has built-up top and bottom flanges with 5" x 5-1/2" angle sections:

1. Top Flange angle has 1/16 – 1/8" section loss (approx. 8% to 17% section loss) for Full Height x 5" L in connecting leg.
2. Bottom Flange angle exhibits up to 100% section loss in connecting vertical leg for FH x 25-1/2" L.

- Floorbeam FB-3 end face has built-up web with web center plates and 2 pieces of web cover plates on top:

1. Web upper cover plate exhibits 1/4" section loss on Full Height x 4-1/2" W to FW (approx. 44%) (as-inspected original dimension – 32" H x 6-3/4" W x 9/16" thick).
2. Web lower cover plate exhibits section loss varying from 3/8" – 1/2" on Full Height x 3-1/2" to 5" W (approx. 66% to 88%) (as-inspected original dimension – 38" H x 25-1/2" W x 9/16" thick).
3. Web center plate has no significant section losses visible on end face.

Notes:

1. The affected member, Floorbeam FB3 is located in transverse direction, in the middle of the length of the span, under the deck, supporting the stringers and the roadway above.
2. The adjacent Girder G1 has section loss in top and bottom flange angles as well as in the web attached with the

floorbeam end.

3. Floorbeam FB3 web has a portion of the original section and a portion of a "newer" web section (as part of a past bridge rehabilitation) welded to each other with a vertical weld line and then an inclined weld line (see photo 2, sketch 1).

- There is 1/8" section loss (8"H x 1"W) and up to 1/16" section loss (1-1/2"W x 18"H) adjacent to vertical weld line in the original web section.
- There is 1/8" section loss in the "newer" web section (located at 21" from the top flange) in area of 5"H x 1"W.

4. A double lane closure on Hamilton Avenue Westbound with shadow vehicle and a 125' manlift is required to access the flagged location.

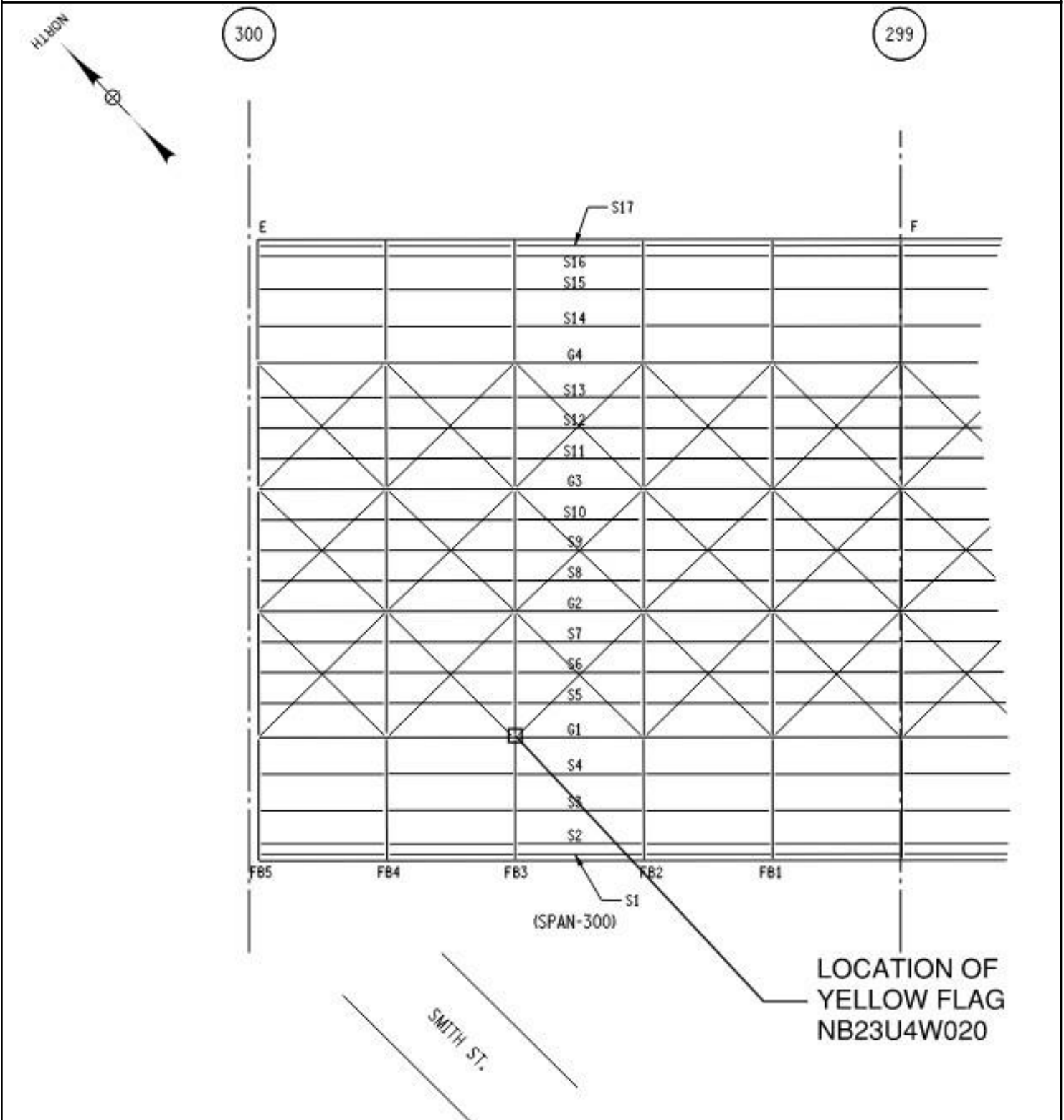
5. The previous 2021 biennial inspection at this location has the following description of defect:

Floorbeam FB3 bottom flange between Girders G1 and G2 has up to 15% section loss with up to 90% section loss to rivet heads.

Flag Photographs

Photo Number: 1

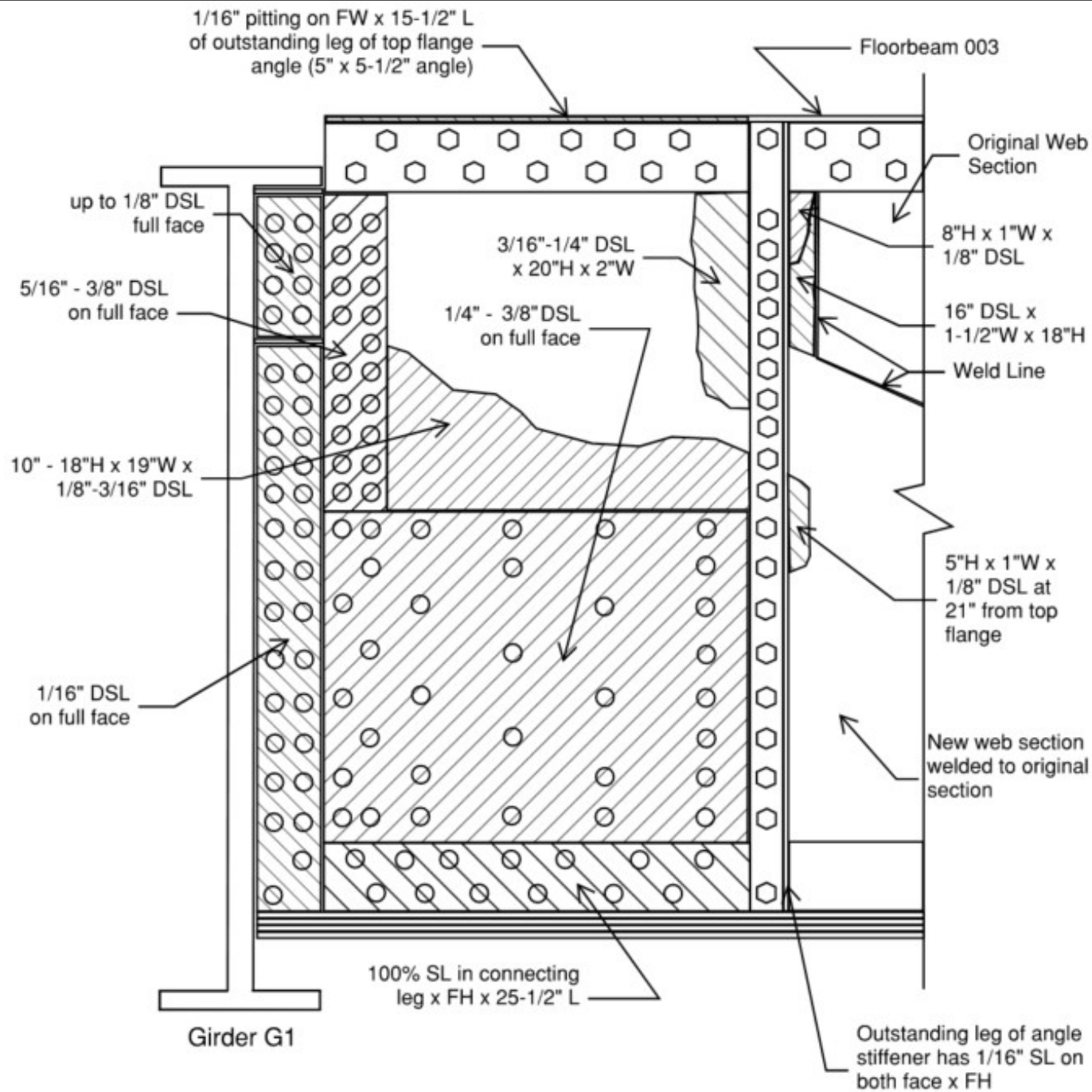
Photo Filename: NB23U4W020 LOCATION PLAN.JPG



Attachment Description: Flag Location Plan

Photo Number: 2

Photo Filename: NB23U4W020 CONDITION SKETCH 1.JPG

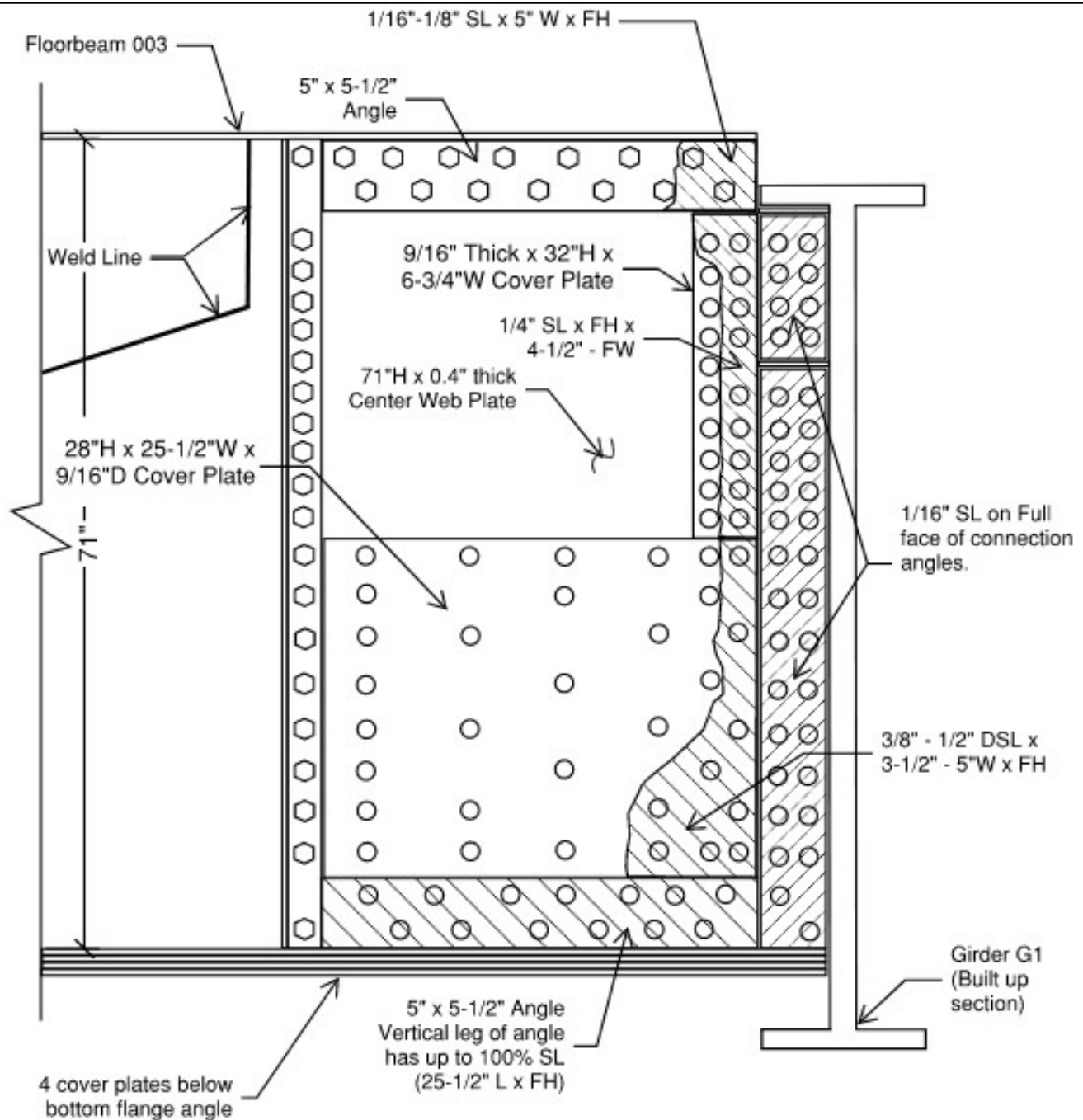


SPAN 300, FLOORBEAM 003 AT GIRDER G1 RIGHT SIDE
(LOOKING END)
N.T.S

Attachment Description: Flag Condition Sketch 1

Photo Number: 3

Photo Filename: NB23U4W020 CONDITION SKETCH 2.JPG



SPAN 300, FLOORBEAM 003 AT GIRDER G1 RIGHT SIDE
(LOOKING BEGIN)
N.T.S

Attachment Description: Flag Condition Sketch 2

Photo Number: 4

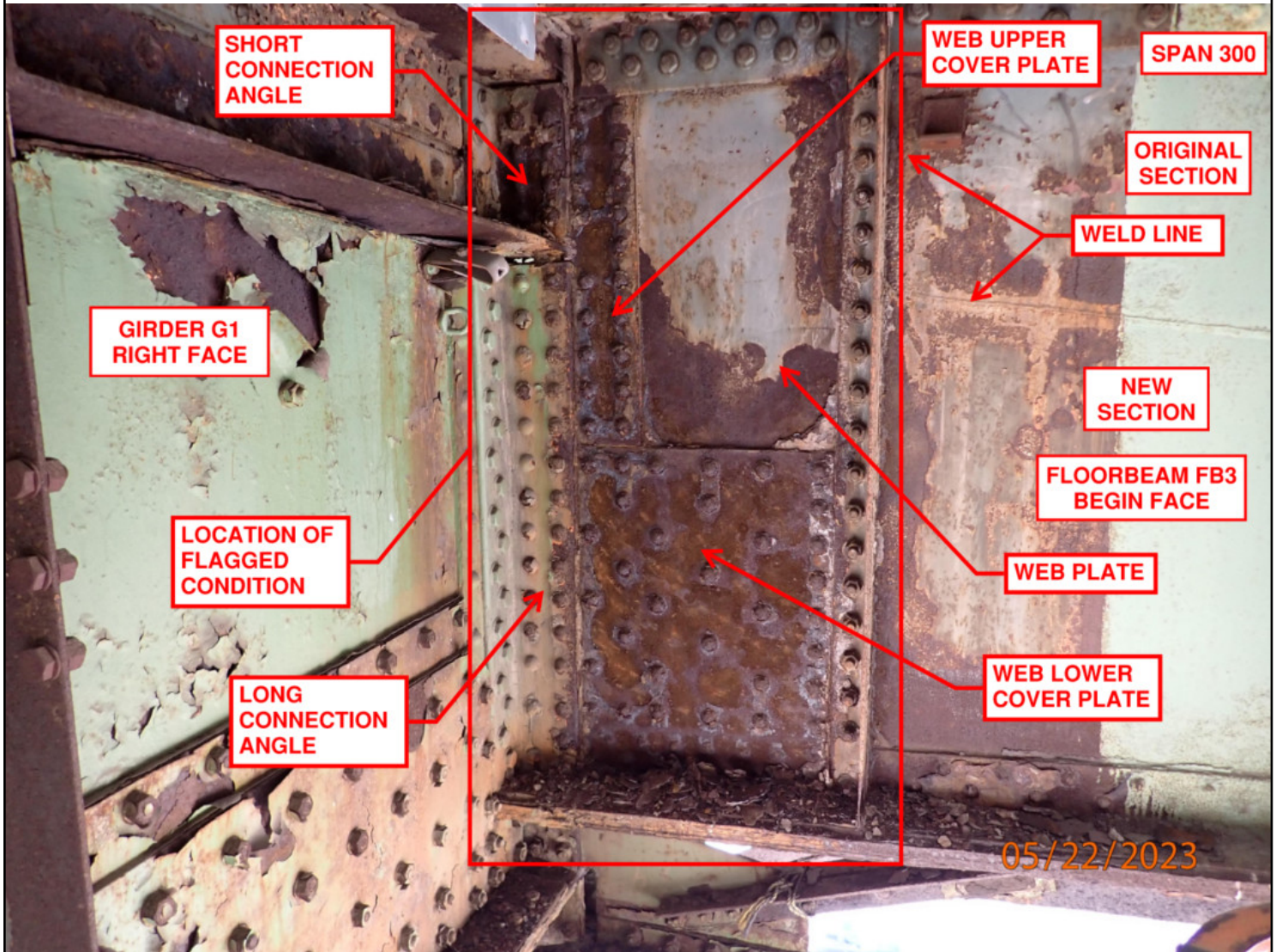
Photo Filename: P5193176.JPG



Attachment Description: General View of Flag Condition on Floorbeam FB3 Begin Face before removal of delaminated steel. Looking End.

Photo Number: 5

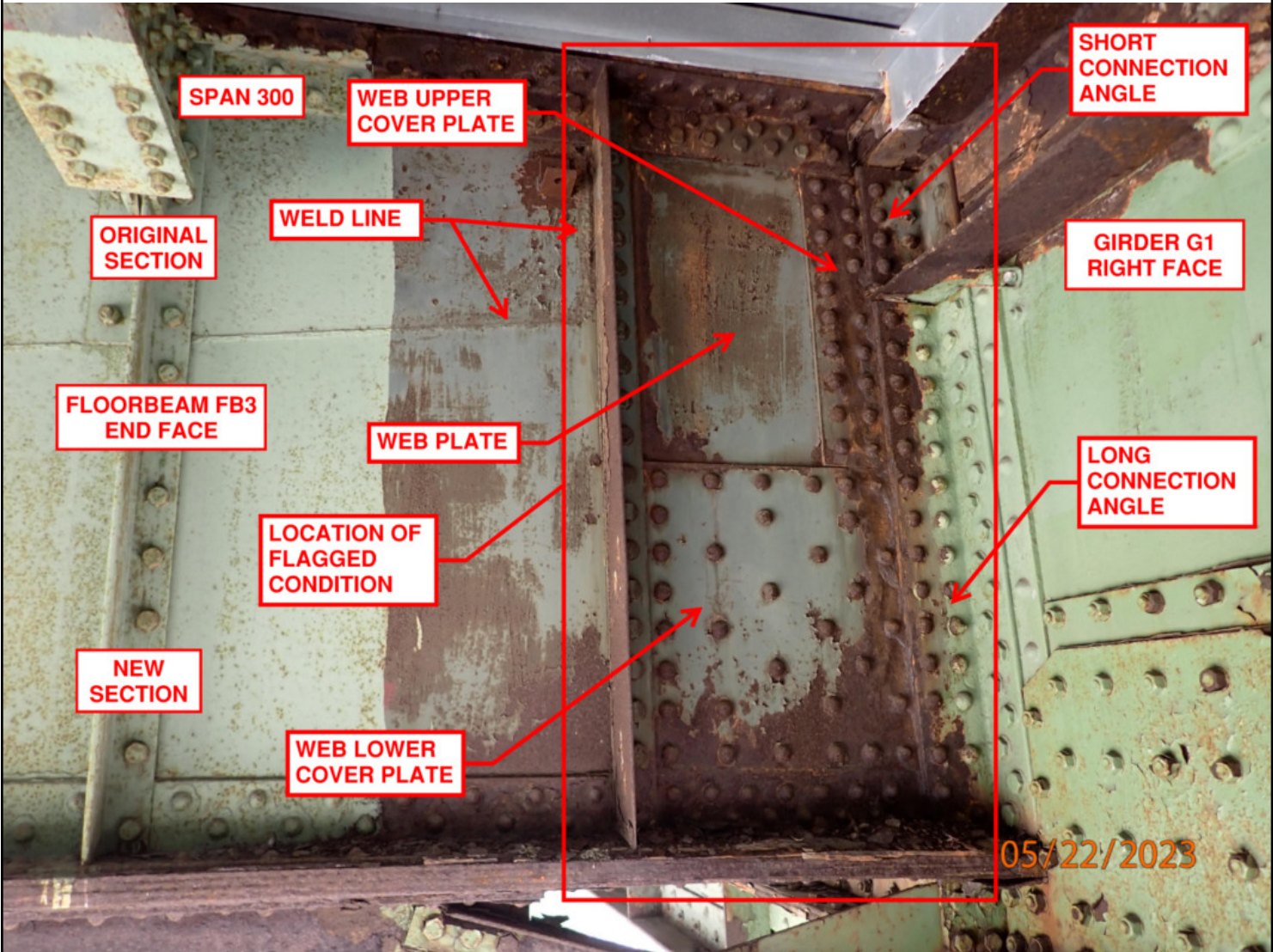
Photo Filename: P5223244.JPG



Attachment Description: General View of Flag Condition on Floorbeam FB3 Begin Face after removal of delaminated steel. Looking End.

Photo Number: 6

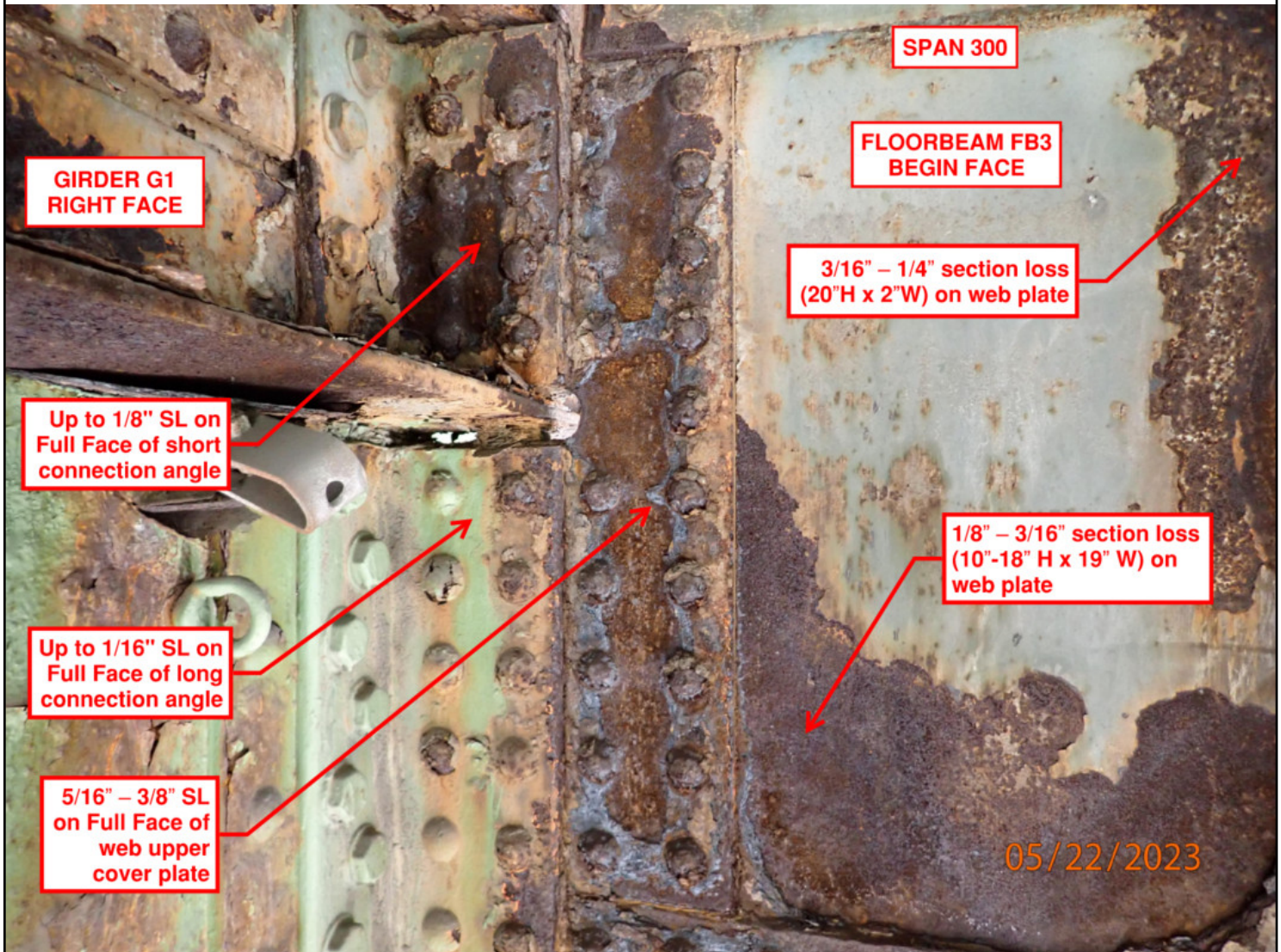
Photo Filename: P5223208.JPG



Attachment Description: General View of Flag Condition on Floorbeam FB3 End Face. Looking Begin.

Photo Number: 7

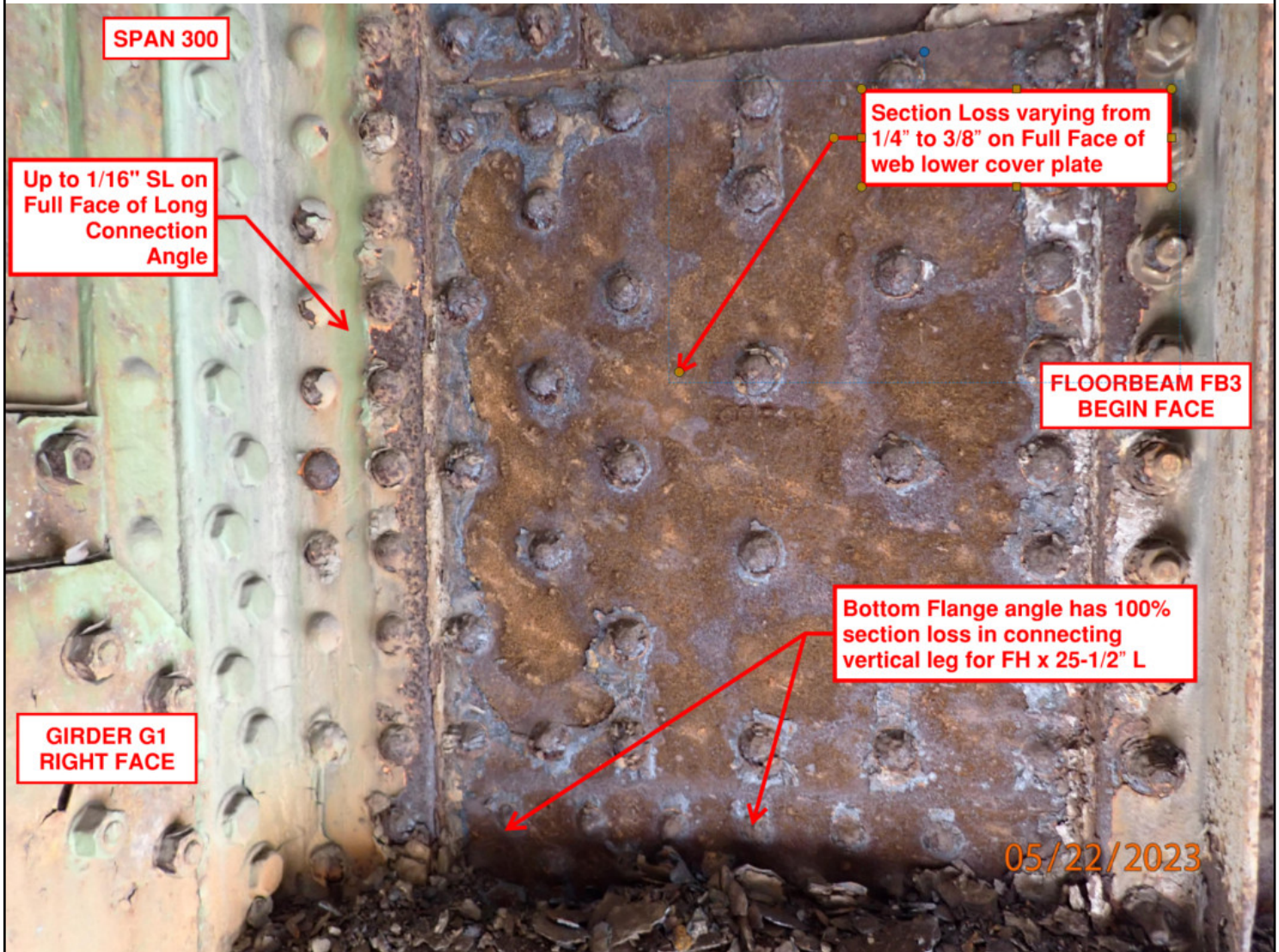
Photo Filename: P5223229.JPG



Attachment Description: Web upper cover plate has 5/16" – 3/8" SL on Full Face, web center plate has 1/8" – 3/16" SL (10"-18" H x 19" W) and, a 3/16" – 1/4" SL (20"H x 2"W). Short connection angle located above has up to 1/8" section loss and long connection angle located below short angle, has 1/16" section loss on full face of both legs. Looking End.

Photo Number: 8

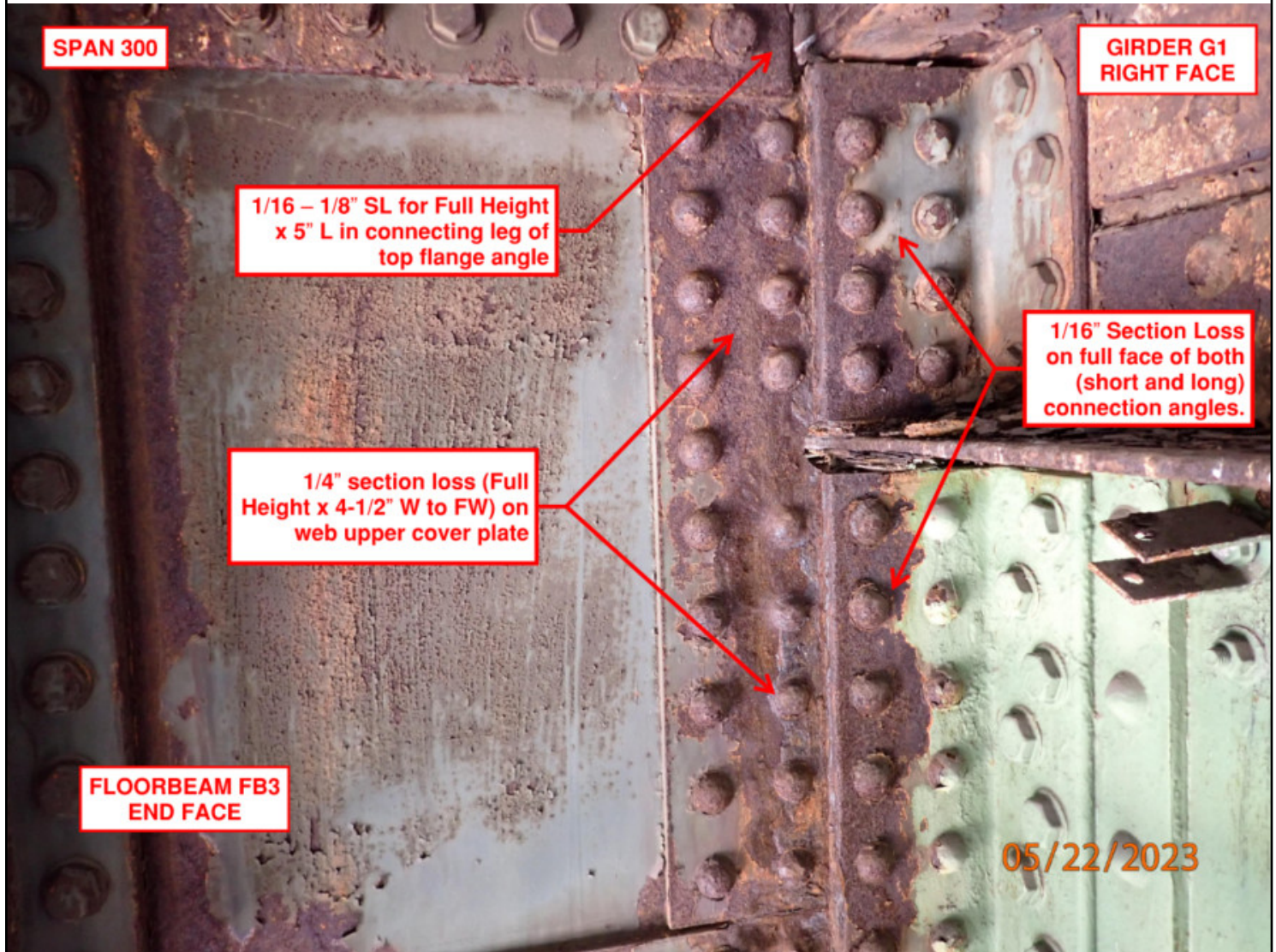
Photo Filename: P5223236.JPG



Attachment Description: Web lower cover plate exhibits section loss varying from 1/4" to 3/8" on Full Face. Bottom Flange angle exhibits 100% section loss in connecting vertical leg for FH x 25-1/2" L. Looking End.

Photo Number: 9

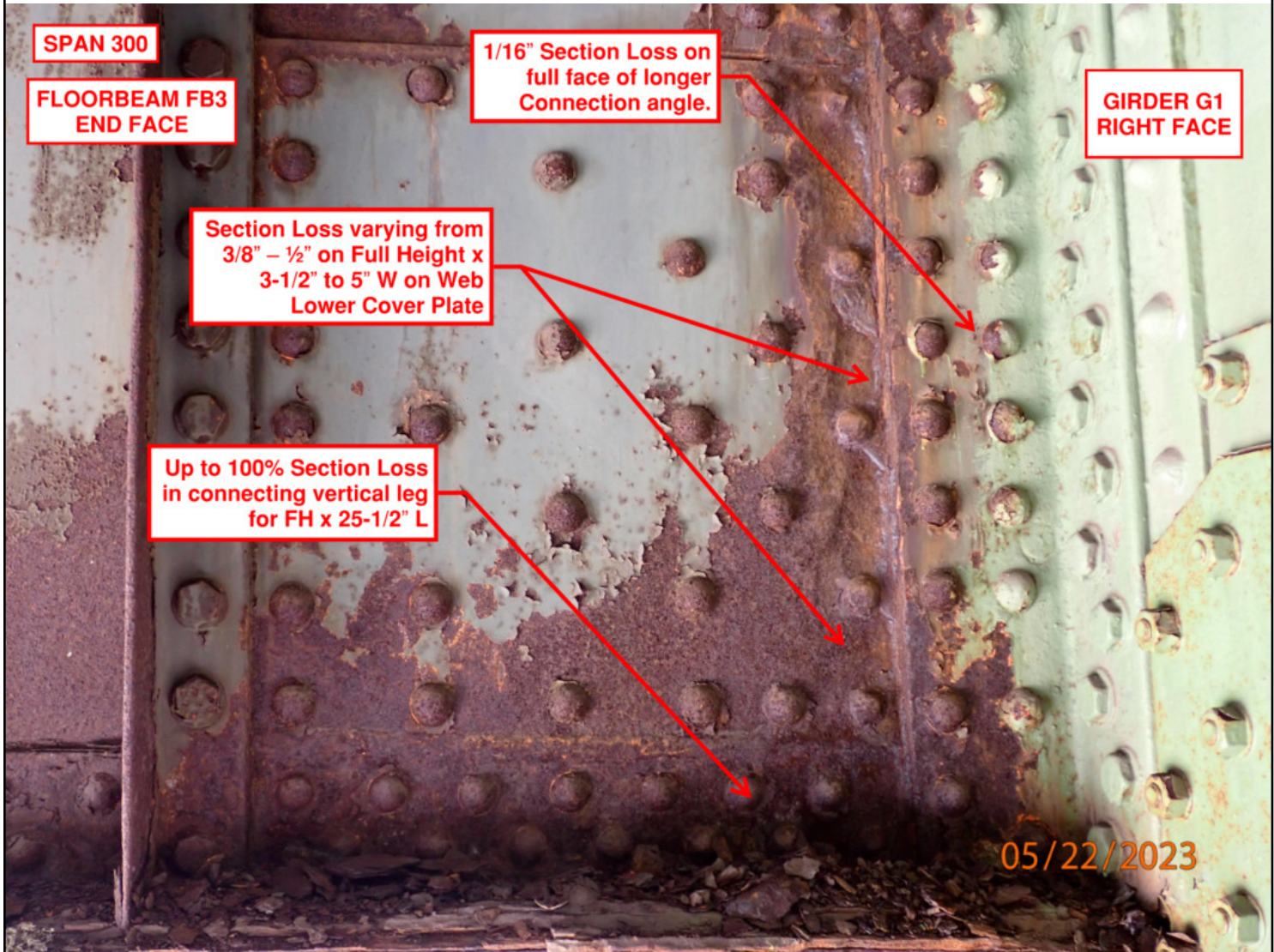
Photo Filename: P5223188.JPG



Attachment Description: Both connection angles exhibit 1/16" section loss on full face. Top Flange angle has 1/16 – 1/8" section loss for Full Height x 5" L in connecting leg. Web upper cover plate exhibits 1/4" section loss on Full Height x 4-1/2" W to FW. Looking Begin.

Photo Number: 10

Photo Filename: P5223207.JPG



Attachment Description: Lower connection angle exhibits 1/16" section loss on full face. Bottom Flange angle exhibits up to 100% section loss in connecting vertical leg for FH x 25-1/2" L. Web lower cover plate exhibits section loss varying from 3/8" – 1/2" on Full Height x 3-1/2" to 5" W. Looking Begin.